

AMENDMENT TO THE CLAIMS

1. (Currently Amended) A reverse data rate controlling method in a data communication system between an access network (AN) and access terminals (ATs), comprising the steps of:
transmitting data at initial reverse data rates to the AN;
receiving a message including ignore RAB (Reverse Activity Bit) information indicating whether the ATs should not change the reverse data rates from the AN in at least one AT;
receiving a RAB indicating increase or decrease of the reverse data rates from the AN;
and
ignoring the RAB in the at least one AT received the ignore RAB information.

2. (Original) The reverse data rate controlling method of claim 1, wherein the ignore RAB information is included in an RRL (Reverse Rate Limit) message.

3. (Currently Amended) A reverse data rate controlling method in an access terminal (AT) in a mobile communication system, comprising the steps of:

establishing a reverse link with initial values, receiving an RRL (Reverse Rate Limit) message on a forward link and storing a value of an ignore reverse activity bit (RAB) field included in the reverse rate limit (RRL) message;

determining a reverse data rate by comparing a current data rate with a data rate set in the RRL message and transmitting packet data at the determined reverse data rate; and

changing the reverse data rate according to the value of the ignore RAB field upon receipt of an RAB on the forward link.

4. (Original) The reverse data rate controlling method of claim 3, wherein if the reverse data rate decrease is requested and the ignore RAB field indicates neglect of the RAB, the reverse data rate decrease is not performed.

5. (Original) The reverse data rate controlling method of claim 4, wherein if the reverse data rate decrease is requested and the ignore RAB does not indicate neglect of the RAB, the reverse data rate is decreased unless the reverse data rate is the lowest data rate.

6. (Currently Amended) A reverse data rate controlling method in an access network (AN) in a mobile communication system, comprising the steps of:

analyzing characteristics of an access terminal (AT) or a service in an initialization state for the AT and setting a medium access control (MAC) index for the AT on a forward MAC channel;

setting an ignore reverse activity bit (RAB) field if a predetermined data rate must be maintained according to the characteristics of an AT or a service ; and

assembling an reverse rate limit (RRL) message with the ignore RAB field and transmitting the RRL message to the AT.

7. (Original) The reverse data rate controlling method of claim 6, wherein if the AT is one of a premium AT and an emergency AT, the ignore RAB field is set.

8. (Original) The reverse data rate controlling method of claim 6, wherein if the service is one of a high quality data service and a real time data service, the ignore RAB field is set.

9. (Currently Amended) A reverse data rate controlling method in a plurality of access terminals (ATs) in a data communication system between an access network (AN) and the ATs, comprising the steps of:

receiving an reverse activity bit (RAB) indicating increase or decrease of reverse data rates from the AN during transmitting data at the reverse data rates to the AN;

comparing access probabilities corresponding to the reverse data rates with random numbers generated in the ATs; and

increasing the reverse data rates for the respective ATs and determining the data rate according to the comparison result and transmitting data at the determined increased data rates.

10. (Currently Amended) The reverse data rate controlling method of claim 9, wherein the ATs receive different access probabilities for different reverse data rates by an reverse rate limit (RRL) message on a forward link.

11. (Previously Presented) The method of claim 9, wherein the ATs establish the access probabilities, which are different access probabilities for different reverse data rates, as initial values.

12. (Original) The method of claim 9, wherein said data rate determination is selected under power limitation of the AT.

13. (Currently Amended) A reverse data rate controlling method in an access terminal (AT) in a mobile communication system, comprising the steps of:

establishing a reverse link with initial values, receiving an reverse rate limit (RRL) message on a forward link, and storing access probabilities for data rates;

determining a reverse data rate by comparing a current data rate with a data rate set in the RRL message and transmitting packet data at the determined reverse data rate; and

changing the reverse data rate according to the access probabilities based on the received data rate upon receipt of a reverse activity bit (RAB) on the forward link.

14. (Original) The reverse data rate controlling method of claim 13, wherein if the reverse data rate decrease is requested, a random number is generated, the random number is compared with the access probability for the current data rate, and the current data rate decrease if the comparison result satisfies a decrease condition.

15. (Original) The reverse data rate controlling method of claim 14, wherein if the reverse data rate decrease is requested, a random number is generated, the random number is compared with the access probability for the current data rate, and the current data rate is kept if the comparison result does not satisfies a decrease condition.

16. (Previously Presented) The reverse data rate controlling method of claim 13, wherein if the reverse data rate increase is requested, a data rate higher than the current data rate, but below the data rate set in the RRL message, is selected, a probability value of the selected data rate is compared with the random number, and if the comparison result satisfies an increase condition, the current data rate is increased to the selected data rate.

17. (Original) The reverse data rate controlling method of claim 16, wherein if the current data rate is the data rate set in the RRL message, the random number is not compared with the access probability.

18. (Original) The reverse data rate controlling method of claim 13, wherein if the reverse data rate increase is requested, data rates higher than the current data rate are selected sequentially in a descending order beginning from the data rate set in the RRL message, a random number is generated for each selected data rate, the access probability of the selected data rate is compared with the random number, and if the comparison result satisfies an increase condition, the current data rate is increased to the selected data rate.

19. (Currently Amended) A reverse data rate controlling method in a mobile communication system for transmission of packet data, comprising the steps of:

analyzing characteristics of an access terminal (AT) or a service in an initialization state for the AT and setting a medium access control (MAC) index for the AT on a forward MAC channel;

generating an access probability for each data rate according to an AT type or the service characteristic; and

assembling an reverse rate limit (RRL) message with the access probabilities and transmitting the RRL message to the AT.

20. (Original) The reverse data rate controlling method of claim 19, wherein if the AT is one of a premium AT and an emergency AT, a higher access probability is set for a higher data rate.

21. (Original) The reverse data rate controlling method of claim 19, wherein if the service is one of a high quality data service and a real time data service, a higher access probability is set for a higher data rate.

22. (Original) The method of claim 19, wherein the access probability for each data rate is broadcasted on a common channel.

23. (Original) The method of claim 19, wherein the access probability for each data rate is transmitted to each AT on a traffic channel.

24. (Currently Amended) In an access terminal (AT) apparatus for transmitting reverse packet data in a mobile communication system, a control procedure performed when transmitting the reverse packet data in the AT apparatus comprising the steps of:

establishing a reverse link with initial values, receiving an RRL (Reverse Rate Limit) message on a forward link, analyzing an ignore reverse activity bit (RAB) field, and storing the value of the ignore RAB field;

determining a reverse data rate by comparing a current data rate with a data rate set in the RRL message and transmitting packet data at the determined reverse data rate; and

changing the reverse data rate according to the value of the ignore RAB field upon receipt of an RAB on the forward link.

25. (Currently Amended) In an access network (AN) apparatus for transmitting reverse packet data in a mobile communication system, a control procedure performed when transmitting the reverse packet data in the AN apparatus comprising the steps of:

analyzing characteristics of an access terminal (AT) or a service in an initialization state for the AT and setting a medium access control (MAC) index for the AT on a forward MAC channel;

setting an ignore reverse activity bit (RAB) field if a predetermined data rate must be maintained according to the AT or the service characteristic; and

assembling an reverse rate limit (RRL) message with the ignore RAB field and transmitting the RRL message to the AT.

26. (Currently Amended) In an access terminal (AT) apparatus for transmitting reverse packet data in a mobile communication system, a control procedure performed when transmitting the reverse packet data in the AT apparatus comprising the steps of:

establishing a reverse link with initial values, receiving an reverse rate limit (RRL) message on a forward link, and storing access probabilities for data rates;

determining a reverse data rate by comparing a current data rate with a data rate set in the RRL message and transmitting packet data at the determined reverse data rate; and

changing the reverse data rate according to the access probabilities upon receipt of a reverse activity bit (RAB) on the forward link.

27. (Currently Amended) In an access network (AN) apparatus for transmitting reverse packet data in a mobile communication system, a control procedure performed when transmitting the reverse packet data in the AN apparatus comprising the steps of:

analyzing a type of an access terminal (AT) and characteristics of a service in an initialization state for the AT and setting a medium access control (MAC) index for the AT on a forward MAC channel;

generating an access probability for each data rate according to the characteristics of an AT or a service; and

assembling an reverse rate limit (RRL) message with the access probabilities and transmitting the RRL message to the AT.